UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,205	04/15/2004	Sun Hee Yang	5895P055	1162

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EXAMINER
DAFTUAR, SAKET K

ART UNIT	PAPER NUMBER
2151	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/826,205	YANG ET AL.
	Examiner	Art Unit	
	Saket K. Daftuar	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2004*.

2a)☐ This action is FINAL.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *02/14/06*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-15 are presented for the examination.

Priority

2.   Acknowledgment is made of applicant's claim for foreign priority under 35

U.S.C. 119(a)-(d). The certified copy has been filed and received.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4.   Claims 1-7 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

The claims lack the necessary physical articles or objects to constitute a

machine or a manufacture within the meaning of 35 USC 101. They are clearly

not a series of steps or acts to be a process nor are they a combination of

chemical compounds to be a composition of matter. As such, they fail to fall

within a statutory category. They are, at best, functional descriptive material *per*

se.

Descriptive material can be characterized as either "functional descriptive

material" or "nonfunctional descriptive material." Both types of "descriptive

material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d

at 1360, 31 USPQ2d at 1759. When <u>functional</u> descriptive material is recorded

on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in ·most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994).

Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

The language of claim 1 not limited to any particular apparatus or an article but may be practiced with any such suitable software application program or instruction. Software is not one of the four categories of invention and therefore claims 1-7 are not statutory.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

·A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by

Srivastava U.S. Patent Number 6,856,991 B1 (hereinafter Srivastava).

As per claim 1, Srivastava discloses a packet analyzing unit for inspecting

whether a session label [MPLS label] has been attached to a received packet,

analyzing header information of the received packet to learn session information

[evaluating each frame], and attaching a session label to a header of the

received [edge label switch router creates a label and applies it to packets]

packet (see column 3, line 20 – column 4,line 9); a load balancing processing

unit for assigning a server [selected server] to a session of the received packet

without the session label attached in view of load balancing according to a result

of the inspection of the packet analyzing unit (see column 6, lines 5-31);a

session label switching unit for hardware-switching [hop-by-hop routing between

nodes] the received packet with the session label attached [MPLS labels to all

nodes] using only the session label information without a packet analysis process

or server assignment process according to a result of the inspection of the packet

[evaluating each frame, column 3,line 20- column 4, line 9] analyzing unit (see

column 6,lines 5-43);a session managing unit [edge label switch router] for

managing and maintaining relevant information and states of sessions requested

by the clients; and a session label managing unit for assigning the session label,

and withdrawing and managing session label not in use (column 3, line 20-

column 4, line 9, each edge label switch router maintains a label forwarding

information base as).

As per claim 2, Srivastava discloses a session label inspecting unit for

inspecting whether the session label has been attached to the received packet,

transmitting the received packet to the session label switching unit to switch the

received packet if the session label has been attached to the received packet,

and transmitting the received packet to a packet contents analyzing unit if the

session label is not attached to the received packet (see column 6, lines 7-43,

column 16, lines 20-42; Figures 3A –3F);the packet contents analyzing unit for

learning the session information by analyzing the header information of the

received packet ranging from third to seventh layers [Layer 3 in OSI, column 3,

line 20 – column 4, line 9] of the received packet, inspecting whether a session of

the received packet is a new session, transmitting the received packet of the new

session to the load balancing processing unit to assign the server to the new

session if the session is new, and transmitting the packet of an existing session

to a predetermined server [selected server based on hop-by-hop mapping] if the

session is not new[create new Label at last nodes for each packet and

transmitting the labels to the all node in the existing session, see column 6, lines

7-43]; and a session label attaching unit for attaching the assigned session label

to the header of the received packet [distributing MPLS labels to all nodes in

mapped network], (see column 6, lines 7-43; column 25, line 45 – column 26, line

59).

As per claim 3, Srivastava discloses the session label is an MPLS-based session label [MPLS label, see column 6, lines 7-43].

As per claim 4, Srivastava discloses a load balancing algorithm unit for determining a load balancing server using a specific algorithm in view of information including a round robin method, a minimally connected server, weights and response time from the server (column 12, lines 46-53 with column 2, lines 36-41); a server configuration/state managing unit for managing configurations and states of the servers by performing real time server state monitoring or configuration management (column 4,lines 43-43); and a service acceptance control unit for refusing a service request of the new session if the existing session is serviced (see column 4,lines 58- 67).

As per claim 5, Srivastava discloses the session label switching [labeling mechanism, column 3, lines 20 – 37] unit performs label switching with reference to a value of the session label attached to the header of the received packet, and a label switching table [route table] including information of line cards and ports through which the received packet is input/output (column 6, lines 7-43, column 25, line 45 – column 26, line 59).

As per claim 6, Srivastava discloses the session managing unit recognizes start, determination and interruption of the session, and adds, deletes and changes relevant information in the session table (column 25, line 45 – column 26, line 59).

As per claim 7, Srivastava discloses the server load balancing apparatus according to claim I, wherein the assignment of the session label is performed in such a way that a Client-To-Server (C2S) session label is assigned an odd number and a Server-To-Client (S2C) session label is assigned an even number obtained by adding 1 to the value of the C2S session label (column 6, lines 7-43; column 21, lines 47-59).

As per claim 8, Srivastava discloses a first step of the server load balancing apparatus recognizing a new session by analyzing a header of a received packet and assigning a C2S session label when the client requests service from the server through the server load balancing apparatus (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43 with Figures 1A-1B and column 16, lines 20-42); a second step of the server load balancing apparatus assigning a specific server for servicing the session in view of load balancing, attaching the assigned C2S session label to the received packet, and transmitting the received packet with the C2S session label attached to the server (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43 with Figures 1A-1B and 4; column 16, lines 20-42);a third step of the server having received the packet with the C2S session attached automatically assigning an S2C session label, that is, an opposite direction session label, with reference to a value of a session label of the received packet (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43; column 16, lines 20-42);a forth step of the server processing the service request from the client, attaching the assigned S2C

session label to the packet according to a result of the processing, and transmitting the received packet with the S2C session label to the server load balancing apparatus (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43; column 16, lines 20-42);a fifth step of the server load balancing apparatus having received the packet with the S2C session label attached from the server label switching the received packet to the client using the value of the session label (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43 with Figures 1A-1B and 4; column 16, lines 20-42); a sixth step of the client having received the received packet with the S2C session label attached automatically assigning the C2S session label, that is, an opposite direction session label to the received packet, with reference to the value of the session label of the received packet (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43 with Figures 1A-1B and 4; column 16, lines 20-42);a seventh step of the client attaching the packet with the assigned C2S session label attached and transmitting the packet with the assigned C2S session label to the server load balancing apparatus when the client transmits the packet to a destination server (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43 with Figures 1A-1B and 4; column 16, lines 20-42); and an eighth step of the server load balancing apparatus having received the packet with C2S session label attached from the client label switching the packet with C2S session label attached to the destination server (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43 with Figures 1A-1B and 4; column 16, lines 20-

42);wherein the server load balancing apparatus determines the server for connection using information of the session label with respect to the packet with the session label attached (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43 with Figures 1A-1B and 4; column 16, lines 20-42).

As per claim 9, Srivastava discloses wherein it is inspected whether the MPLS session label has been attached to the packet input into the server load balancing apparatus, and the packet with the MPLS session label attached is fast-switched using only information of the session label (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43; column 12, lines 41-43).

As per claim 10, Srivastava discloses wherein it is inspected whether the MPLS session label has been attached to the packet input into the server load balancing apparatus, and only the header of the packet header without the session label attached is selectively analyzed (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43).

As per claim 11, Srivastava discloses the step of assigning the specific server comprises the step of determining whether to accept or refuse the session of only the packet without the session label attached (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43).

As per claim 12, Srivastava discloses the server load balancing apparatus omits a function of performing mapping between a virtual IP address and an IP addresses of the server in such a way that the server attaches the virtual IP

address to the header of the packet with the session label attached (see column 1, lines 37-58; column 2, lines 25-35).

As per claim 13, Srivastava discloses the C2S session label is assigned an odd number, and the S2C session label is automatically assigned a value obtained by adding 1 to the value of the C2S session label (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43; column 21, lines 47-59).

As per claim 14, Srivastava discloses the assignment of the bi-directional session labels (S2S and S2C) is performed by automatically recognizing the value of the opposite directional label without using an additional protocol for assigning a session label to a packet in such a way the server and the client add 1 to and subtract 1 from the value of the session label that is attached to the packet received from an opposite party, respectively (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43; column 21, lines 47-59).

As per claim 15, Srivastava discloses the session label is attached to the header of the received packet according to a MPLS header configuration (see column 3, line 20 – column 4,line 9; see column 6, lines 7-43).

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See accompanying PTO 892.

a.   MPLS Fast Reroute Without Full Mesh Traffic Engineering by Vasseur et al. U.S. Patent Number 7,230,913 B1.

b.   Dynamically Adjusting MultiProtocol Label Switching (MPLS) Traffic

Engineering Tunnel Bandwidth by Goguen et al. U.S. Patent Number 6,665,273

B1.

8.   A shortened statutory period for reply to this non-final action is set to expire

THREE MONTHS from the mailing date of this action. Failure to respond within the

period for response will result in **ABANDONMENT** of the applicant (See 35 U.S.C 133,

M.P.E.P 710.02,71002 (b)).

Contact Information

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Saket K. Daftuar whose telephone number is 571-272-

8363. The examiner can normally be reached on 8:30am-5:00pm M-W.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system.   Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SKD

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